LRFD Bridge Design Manual Update ~ July 2016

BDM Articles Updated	Description of BDM Update
Entire BDM Updated	All BDM chapters have been updated. All update markups prior to July 2016 have been accepted and the markups have been removed. All articles will be designated with a July 2016 date. Markups for the July 2016 release are included.
1.7.2	Added recommendations for designers to consider regarding bridges on steeper grades.
1.15	Added language regarding instructions for plan addendums.
1.18, C1.18	New article addressing in-depth and cursory reviews of projects on the local system.
Revised Chapter 3 in general	Removed metric equivalents, updated existing links and references, and added hyperlinks.
3.1	Added explanation of what is included in a TS&L.
3.1.3	Added new definitions.
3.1.4	Added new abbreviations.
3.2.2.1	Updated hydrology method policy.
3.2.2.4	Language added to incorporate the new terms: regulatory and operational low beam.
3.2.6	Changed terminology from preliminary situation plan to TS&L.
3.2.7.1	Note skew on curved bridges on TS&L.
3.2.7.3.3	BSLT shall be placed on TS&L.
3.2.9	Changed “preliminary situation plan” to “TS&L”. Updated what should be included on a TS&L. Added note regarding the new electronic deliverable format documents availability on the web site.
3.2.10	Replaced preliminary situation plan with TS&L.
3.2.13	New article regarding submittals.
New Chapter 4 Preliminary Design of Culverts	The new “Chapter 4 Preliminary Design of Culverts” will replace the existing version of “Guidelines For Preliminary Design Of Culverts, Revised April 2000” which consisted of the following three web documents: • 03-PDG_Title 2000_culverts_Aug13.pdf • 03-PDG_Culv 2000_July14.pdf • 03-PDG_App_A_Jan13.pdf
5.5.2.4.1.8, 5.5.2.4.1.15	Added language highlighting components/details which often control load-induced fatigue requirements for typical steel bridge designs.
5.5.2.4.1.11	Corrected a figure reference.
5.5.2.4.1.14	Minor textual correction.
5.6.2.1.1	Clarified AASHTO references regarding equivalent strips for live load design of CCS bridges.
5.6.2.1.1, 5.6.2.4.2, 5.8.5.1.1, 6.5.1.1.1, 6.5.2.2, 6.5.4.1.2,	Updated BDM policy to reflect the use of tied approaches for CCS bridges on the interstate and primary system as shown in the J40-14 and J44-14 standards. Includes use of stainless steel bars for the

6.5.4.2.2	approach connection.
5.6.2.2.5	Clarified design requirements regarding berm earth pressure forces for CCS bridge design.
5.7.2.7, C5.7.2.7	Added article addressing design of bearings for inundation.
5.8.1.1.1	Clarified F-shape barrier rail height and test level criteria.
5.8.3.3.2	Updated Standard Specification reference for the elastomer compound used for finger plate troughs and curtains.
5.8.5.1.1	Added requirement for stainless steel rebar in the barrier to deck connection for bridges on paved roads over the Interstate and Primary Highway System.
6.2.1.2	Added suggested assumed embankment fill properties if specific properties are unknown.
6.2.2.2, 6.2.6.1	Clarified a requirement for using SRL-1.5 for piles with downdrag.
6.2.6.1, LRFD Pile Design Examples – Track 1, Example 4	IDOT requires uplift anchors to consist of headed anchor studs or 7/8" diameter threaded F1554 Grade 36 anchor rods. Capacity testing results and standard details will be provided in the future.
6.3.1.1, 6.3.5	Added reasons why the drilled shaft diameter above the rock socket should be 6 inches larger than the rock socket diameter.
6.3.4, 13.8.2	Clarified the drilled shaft diameter to use for downdrag calculations. Updated instructions for Cadd Note E750.
6.5.1.1.1, 6.5.3.3, 6.5.4.1.1, 6.5.4.2.1	Updated Office of Design Standard Road Plan References for approach slabs from the RK to the BR-series.
C6.5.1.1.1	Clarified commentary section on rock coring for integral abutment piles with shallow bedrock.
C6.6.2.10	Corrected a mistake in the calculation of the seismic acceleration coefficient for extreme southeastern Iowa.
7.1.1, 7.3	Extend general use of precast box culverts to include triple boxes.
7.2.3.2.2	Adjusted language to ensure parapet is a minimum of 6 inches above the top of the slab.
7.2.4.11.2	Updated Figure 7.2.4.11.2 for CMP anchorage at tops of wing walls or flumes.
7.3	Precast box culvert use for situations involving bends, drop inlets, scour floors, and other details which are generally only available with CIP box culverts will be approved on a case-by-case basis.
7.3	Precast box culvert lengths on the Situation Plan will include dimensions for end to end barrel length to the nearest foot and the additional barrel length included with the headwalls at each end of the culvert. These new dimensions are in addition to the overall length of the precast box culvert.
8.2.1.1	Updated date for out of distance travel costs.
12.1.2, 12.1.4	Deleted references to BRIDGE CAN and BERMS and included a reference to SIIMS.
12.1.2	Added clarification regarding ADT values on the title sheet for repair plans.
12.1.9.1.1, 13.5.1	For bridges with existing PCC overlays use 20% of deck area

	rather than sounding plots to estimate Class A deck repairs. Cadd Note E400B/M400B was updated.
13.2.1	Deleted a reference to Cadd Note E50D since this Cadd Note was previously deleted.
13.2.2	Updated Cadd Note E15 regarding submittals for working drawings.
13.3.2, 13.5.2	Updated Cadd Note E131 and E485 to address DNR notification requirements regarding asbestos.
13.5.2	Updated instructions for the use of Cadd Note E415 regarding HPC-O concrete overlay curing time.
13.5.2	Updated Cadd Note E472A to specify an epoxy paint system for minor part repainting.
13.8.2	Generalized note E711 and M711 which pertains to 12” pitch column spiral reinforcement.
13.9.1, 13.9.2	Deleted Cadd Note E920 and M920 requiring 28 day concrete strength of 4 ksi for empirical decks since all 28 day concrete strength for decks is currently 4 ksi.
13.9.2	Updated Cadd Note E930 requiring same steel source for exterior girders using weathering steel and added a product name for caulking seal material.
13.10.2	Updated Cadd Note E1005 to correct bid item language for concrete sealer on prestressed beam ends.
13.10.2	Updated Cadd Note E1060 allowing for Class C or D concrete for paving block.